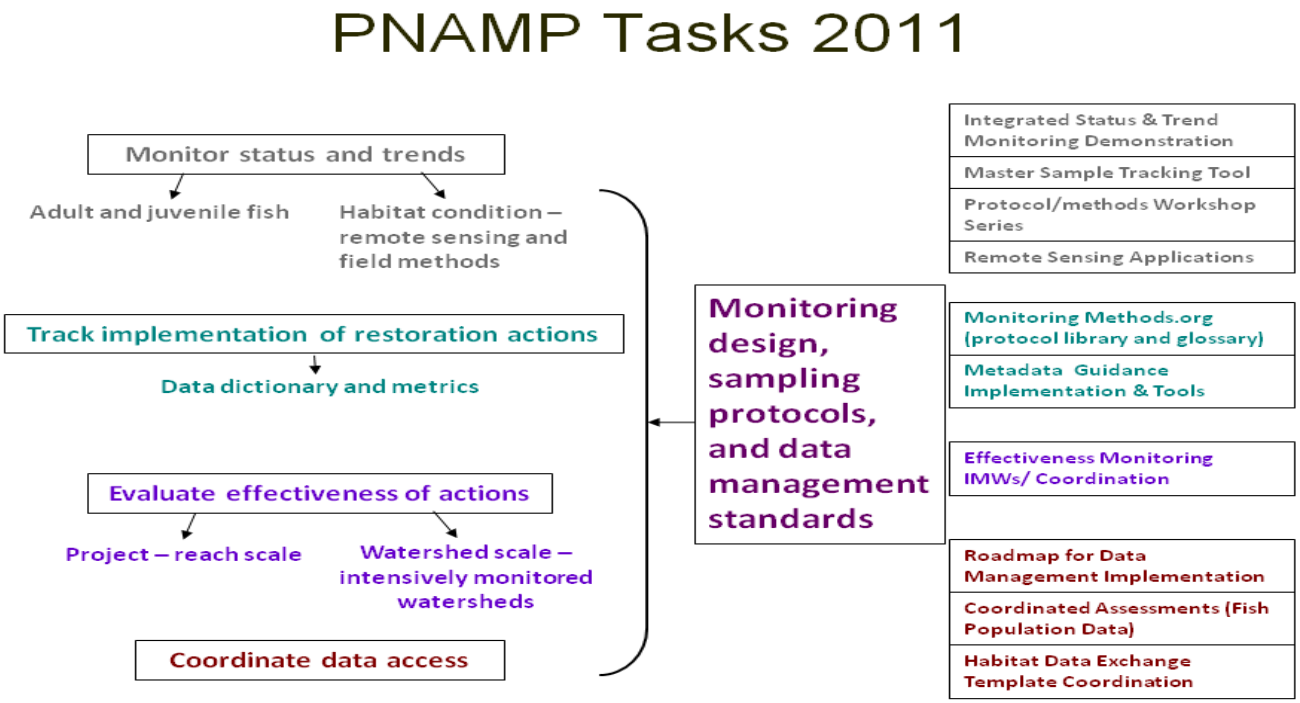
PNAMP 2011 Work Plan in Brief

The foundation of the Pacific Northwest Aquatic Monitoring Partnership (PNAMP) is that monitoring will be improved if: all programs use consistent monitoring approaches and protocols; follow a scientific foundation; support monitoring policy and management objectives; and collect and present information in a manner that can be shared. These goals require considerable effort and commitment to collaboration by many entities and individuals. PNAMP strives to provide the forum to develop collaborative solutions, coordination of efforts, and information sharing for the aquatic monitoring community in the Pacific Northwest.

PNAMP advances coordination goals by hosting a number of projects, standing workgroups and workshops that allow participants to collaborate on projects and exchange information about their respective tribe or agency's monitoring activities. Along with guidance from the PNAMP Steering Committee, the input of monitoring practitioners to PNAMP tasks is vital in order to complete current tasks, identify needs, and initiate new tasks.

PNAMP sees results in the form of inter-personal communication, agreements among individuals, information sharing and more formally, through white papers, task reports, tools, and agreements between entities. Communication and facilitation of collaboration are key elements of PNAMP.

This document provides a brief overview of current projects and tasks, including recent progress and anticipated near-term outcomes. For more information on past PNAMP activities, please see the PNAMP website (www.pnamp.org) or contact the PNAMP Coordinator, Jen Bayer at mailto:jbayer@usgs.gov with any questions or suggestions.



2011 RECURRING ACTIVITIES

Steering Committee meeting series: The Steering Committee (SC) will meet quarterly, alternating between Portland and Olympia. These meeting provide an opportunity to keep SC members up to date on progress of PNAMP tasks, discuss new ideas, priorities, and plan collaborative efforts. More general information sharing remains a lesser priority but the SC has asked for occasional info item…so for 2011 we propose to develop one new 'information sharing' topic each meeting. For example, per discussion at the August SC meeting, we propose to start with the topic of climate change and will organize a presentation and discussion session (for example, how does this relate to monitoring, discussion of coordination/collaboration opportunities, etc). PROPOSED 2011 DATES: March, June, September, December (Jen is lead staff person)

Data Management Leadership Team meeting series: The Data Management Leadership Team (DMLT) will meet quarterly, location to be determined. Similar to the SC, but focused on data management topics, this is an opportunity for members to share updates on progress of PNAMP projects, opportunity for members to share key partner projects, new ideas, questions, etc. A priority DMLT product for 2011 is the Roadmap for Regional Implementation (see below). PROPOSED 2011 DATES: February, May, August, and November. Also, we have proposed a symposium at the American Fisheries Society 2011 Annual Meeting (Seattle, September 4-8) and developing a periodic web-based networking forum for data stewards throughout the region. (Kathryn is lead staff person)

CURRENT PROJECTS

Integrated Status and Trend Monitoring (ISTM) Demonstration Project: (LINK HERE)

BACKGROUND: The Pacific Northwest Aquatic Monitoring Partnership's (PNAMP) Integrated Status and Trend Monitoring (ISTM) project is intended to demonstrate the approaches and utility of integrating the collection of information to address multi-scale questions about the status and trends of fish (salmon, steelhead, and potentially bull trout), and physical, chemical, and biological attributes in stream networks. This project will assist PNAMP's participating members in developing strategic action plans for monitoring in the bi-state lower Columbia (LC) river demonstration area, as well as to demonstrate the general approach to developing such plans for other areas in the Pacific Northwest.

The ISTM effort will provide entities tasked with monitoring fish populations and aquatic habitat in the Pacific Northwest with a roadmap for integration of scientifically sound monitoring programs intended to meet the needs of decision-makers and managers. Specifically, it will apply this approach and develop recommendations for integrated monitoring plans for salmon, steelhead, and potentially bull trout populations listed under the Endangered Species Act (ESA), and their habitats in the LC area. Among the many monitoring components, key features of this effort are improved understanding of the extent and qualities of existing information, key gaps, and how a region-wide "master sample" concept can be applied to select sampling locations where appropriate. Generic objectives in the ISTM project for both habitat and fish are:

1. Identify decisions, questions, and monitoring objectives
2. Review existing programs and designs
3. Identify monitoring designs, sampling frames, protocols, and analytical tools
4. Use trade-off analyses to develop recommendations for monitoring
5. Recommend implementation and reporting mechanisms

PROPOSE: Goal for 2011 is to wrap up ISTM with respect to recommendations to Lower Columbia monitoring partners for their consideration and to develop recommendations for use of this intensive process to devise an integrated monitoring program elsewhere. Results will be compiled for topics (habitat, fish, and master sample tool) and also synthesized across topics into a single report. Results will be shared electronically via the PNAMP website, including anticipated development of the Master Sample tracking tool website.

Worksessions will be held as needed to complete Objectives 4-5 for fish component; 2-5 for habitat components. (Details on the planned schedule to be provided soon).

In addition, a workshop will be conducted to consider measurable criteria, monitoring designs, and analytical approaches for diversity and distribution (VSP parameters). The increasing use of GRTS-based survey designs provides an opportunity to develop improved approaches for monitoring and evaluating fish distribution. The sample frame developed for GRTS-based surveys can provide a benchmark of desired (or historical) fish distribution against which observed distribution or change in distribution can be assessed. Two things are needed in order to develop the analytical approaches needed to use GRTS-based sampling to monitor fish distribution: 1) what level of difference between observed and desired distribution is biologically significant (and over what time frame)?; and 2) what is the ability of various survey designs to detect this level of change? We propose to convene a workshop with biologists and spatial statisticians to address these issues. Proposed date for this workshop is February 2011.

PRODUCT: recommendations specifically for LCR ESU entities' consideration; recommendations for use of ISTM process/concepts/tools that result from this demonstration in the LCR ESU elsewhere in the region.

2011 RESOURCES: Leadership team (Jeff Rodgers, Bernadette Graham-Hudson, Dan Rawding, Phil Larsen) directs/works. Jen is lead staff person. Funding from BPA from FY10 (contracted: ODFW & WDFW for fish/data management tasks) and FY11 ($105,000 to WDFW for fish/data management tasks; $60,000 to USGS for final synthesis); in-kind from other partners. ODFW staff (and others) will provide technical expertise for spatial distribution workshop planning. (Jen is lead staff person).

Master Sample Tracking Tool: (LINK HERE)

BACKGROUND: As part of the ISTM effort, PNAMP (through Oregon State University) has developed a prototype web-based master sample tracking and management system to support the ISTM demonstration for the lower Columbia ESU. The next step is to fully develop this tool into a regional resource that can support the interests of increasing numbers of users in drawing samples from this population domain. This system will allow users to know who else has selected sites from the master sample covering stream networks in their domains; to design individual or integrated monitoring programs; to know how existing sites relate to a common master sample; and what they are collecting at the site over time.

PROPOSE: evaluate prototype, develop requirements for complete tool, develop tool for regional accessibility and use, including integration with MonitoringMethods.org (MM.org), proposed metadata tools, and proposed Columbia Habitat Monitoring Program (CHaMP) tools, as appropriate. Note completion of the inclusive tool is depended on availability of funding.

2011 PRODUCT: web tool for supporting monitoring design, tracking use of the Master Sample, integration with MM.org, (potentially other tools)

2011 RESOURCES: We will use funded ISTM participants and others (in-kind contributions) to evaluate/develop requirements doc. Funding from FY 10 BPA ($57,000) will be used for requirements scoping and for scoping of integration needs with respect to other resources (MM.org, metadata tool). Funding from FY11 BPA (~$30,000) is currently allocated. Full development will require additional resources than are currently allocated. (Jacque Schei is lead staff person)

MonitoringMethods.org(LINK HERE)

BACKGROUND: As of May 2010, PNAMP has begun to redevelop the Protocol Library tool to make it more comprehensive and easier to use. A first step has been to combine the Protocol Library and Monitoring Terminology Glossary into a single site - which is now known as MonitoringMethods.org. MonitoringMethods.org (MM.org) is a new name for the project but the intent is the same: a web-based resource where monitoring practitioners can find a catalog of methods, protocols, and definitions of terminology that is important to them. The redevelopment of MonitoringMethods.org has already resulted in substantial improvements! Soon, you will see the addition of a companion web-based Community Forum to promote information exchange and collaboration between regional monitoring practitioners about methods and other topics of interest to this community.

PROPOSE: complete redevelopment, including Community Forum. Initiate integration with Master Sample web tool, metadata tools, as defined by requirements work. Currently, there is a functioning tool for documenting methodology and study designs at www.monitoringmethods.org, but many of the features and user tasks we have identified have not been incorporated yet. Please note that we have identified more features and user tasks for the system than we have funding for. We will prioritize and expect that the funded tasks, as well as the Community Forum, will be complete by February 1, 2011. This also includes adding content from exiting protocol documentation, as well as from the BPA proposal process.

2011 PRODUCT: functional web application to document study designs and methodology for monitoring; functioning online community forum

2011 RESOURCES: A Gordon Betty Moore Foundation grant (through State of the Salmon Project) provides $60,000 and BPA FY10 data management placeholder funds ($42,000) used to complete first phase (including Community Forum). Additional resources from BPA FY10 source ~$55,000 to be used to plan and initiate integration of MM.org, metadata tool, and the master sample tracking tool. MM.org Leadership Team participates via in-kind contributions. Sitka Technology Group and ISITE Design (contractors) complete software development. (Jacque Schei is lead staff person.)

Roadmap for Regional Data Management Implementation (LINK HERE)

BACKGROUND: The backbone of regional monitoring is a well planned data management structure. PNAMP recognizes that planning resources are required to support a coordinated Research, Monitoring, and Evaluation information network in the Pacific Northwest. The Roadmap is intended to provide an umbrella identifying the processes, business practices, and capacities necessary to support the desired integration of data and monitoring objectives. Advancements have been made in recent years in standards for the creation, documentation, sharing, and reporting of biological and environmental data. The Roadmap seeks to specifically link best practices to the regional needs for data management implementation. Several data management issues have already been identified within the region to be of particular need for guidance – metadata development, data exchange formatting standards, and data exchange network architecture. The Coordinated Assessments (CA) project (see below) is an ongoing pilot effort that includes development and implementation of modern data management practices as with other PNAMP projects such as the

Habitat DET and Metadata Guidance Implementation (both described below). These and future PNAMP projects will be supported by an overarching Roadmap document. The PNAMP Data Management Leadership Team initiated work on the planning document in 2009 and the initial work guided the development of the CA project. However, the umbrella document is not yet complete.

Our intention was to support recent strides in coordination of monitoring efforts and provide a resource to move towards implementation of a regional data management strategy for a coordinated Research, Monitoring, and Evaluation (RM&E) information network in the Pacific Northwest. Specifically, we intend to outline the advancement of standards for data exchange formats, metadata documentation, and application development to support data sharing and exchange across partners. This work is informed by lessons learned through the development of the USEPA Data Exchange Network, where data producers and data users undergo a series of steps to develop data sharing agreements, to define responsibilities for both producers and users, and to develop templates for data exchange. In 2010, this concept was refined into a pilot effort, known as the Coordinated Assessments (CA) project (see below). The "Implementation Roadmap" complements this effort by describing an umbrella under which CA and other efforts, such as the Habitat DET effort (see below), metadata recommendations, etc., may be associated.

PROPOSE: Complete work started in 2010, including finalization of Roadmap document (white paper), discussion with Steering Committee and executives as to adoption and potential funding opportunities for recommended components and unmet capacity needs.

2011 PRODUCT: white paper, recommendations for steering committee consideration

2011 RESOURCES: DMLT participate via in-kind contributions. Kathryn will serve as editor/author of the "Roadmap" white paper with others contributing assistance as much as possible via in-kind contributions. Ross & Assoc (Louis Sweeney) will be contracted for some assistance with Roadmap document. (Kathryn is lead staff person)

Metadata Guidance Implementation (LINK HERE)

BACKGROUND: The PNAMP Metadata Workgroup developed a Metadata Guidance document in 2010 to support documentation of metadata associated with all datasets of relevance to monitoring the status and trends of listed salmonid and the effectiveness of recovery efforts,. This guidance document describes what metadata are, how metadata are used, and the benefits of creating and maintaining metadata. We describe four metadata standards (Dublin Core, Content Standard for Digital Geospatial Metadata (commonly known as FGDC) and its profile variants. International Organization of Standards 19115, and Ecological Metadata Language) and describe the intended use of each. We recommend varying levels of metadata detail for historic datasets, current and future datasets, datasets of limited significance to regional analysis, and datasets that inform regionally defined high-level indicators. A decision tree is provided to assist with determining appropriate metadata and choice of tools to create metadata.

PROPOSE: Facilitate implementation of the recommendations offered in the Metadata Guidance document, including incorporation of metadata recommendations into the "Roadmap for Implementation" document, and development of web-based tools to assist with metadata generation and publishing from project tracking systems. The Workgroup (led by Steve Rentmeester, EDS) will develop a description of requirements, which will inform potential new tools. This work will be coordinated with the development of the MonitoringMethods.org and Master Sample tracking website and other on-line sites as appropriate.

2011 PRODUCT: requirements for potential new tools will be developed (written report); initial development of new tools is desired; however, requirements must be defined to inform funding needs. Recommendations report due February 1, 2011.

2011 RESOURCES: Steve Rentmeester (EDS) is contracted to convene the Workgroup to collaboratively develop the requirements. (Kathryn Thomas is lead staff person)

Coordinated Assessments Project: (LINK HERE)

BACKGROUND: Through the Columbia River Basin Anadromous Salmonid Monitoring Strategy (ASMS), the Federal Columbia River Power System (FCRPS) Action Agencies and Fishery Co-Managers have agreed to the necessary monitoring to provide data to answer key management questions related to VSP Parameters and began the discussion for key habitat and hatchery effectiveness assessments. Performing these assessments and reporting answers to these management questions on an ongoing basis is needed to assure 1) effective evaluation of the Federal Power System Biological Opinion (BiOp), 2) progress toward the recovery of anadromous salmonids listed under the Endangered Species Act (ESA), and 3) effective implementation of the anadromous salmonid elements of the Columbia River Basin Fish and Wildlife Program. PNAMP and CBFWA are collaborating to support co-managers and other key agencies within the sub-regions of the ASMS to develop assessment and data sharing strategies for meeting regional reporting requirements. This effort will also identify gaps in data management and sharing capacities currently limiting the efficiency and effectiveness of data reporting, and establish strategies to close these gaps.

Evolving as a pilot effort out of PNAMP Data Management Leadership Team's work on the Roadmap for Regional Data Management Implementation, the Coordinated Assessments (CA) project began in February 2010. A draft data exchange template (DET) was developed and piloted, a workshop held October 2010 to vet the DET concept and ask for participation in next steps, which include efforts to describe gaps, needs, and priorities and further validation of the DET. Ultimately, our objectives include identification of needed actions to discover and inform partner and regional data sharing needs and priorities to: 1) advance recommendations for regional standards to improve data sharing and support basinwide assessments and 2) inform optimal allocation of limited, regional data management resources, including Columbia Basin Fish and Wildlife Program funds, NOAA funds, and other regional data management funding sources for individual partner capacity and for shared infrastructure.

PROPOSE: in collaboration with CBFWA, continue to support the CA project. Including: using PNAMP as a communication forum for CA tasks, meetings, etc.; using PNAMP to support CA planning team; PNAMP (USGS) to contract for facilitator for planning and workshops; using PNAMP to help other monitoring topics benefit from lessons learned from CA process. A second workshop will be held April 2011. Recommendations will be provided to BPA/NPCC for consideration by June 2011.

2011 PRODUCT: recommendations for regional standards to improve data sharing and support basinwide assessments and 2) inform optimal allocation of limited, regional data management resources, including Columbia Basin Fish and Wildlife Program funds, NOAA funds, and other regional and national data management funding sources for individual partner capacity and for shared infrastructure.

2011 RESOURCES: BPA FY10 data management placeholder funds will be used to fund contracted facilitated support (Ross & Assoc) for planning and implementation of the data exchange template and 2011 workshop (as done in 2010). These funds also support travel for workshop participants, room rental, and USGS staff assistance for DET development and review. (Kathryn to assume lead staff role from Jen)

Effectiveness Monitoring Coordination: (LINK HERE)

BACKGROUND: In 2010, the PNAMP Effectiveness Monitoring Workgroup renewed its efforts to coordinate regional effectiveness monitoring programs. The goals of this effort will be to: 1) Integrate and align existing and new monitoring efforts, 2) Provide better, more scientifically robust data for use in management decisions, and 3) Improve cost efficiency in the implementation of monitoring programs. These goals will be achieved through the following objectives: 1) coordination of approaches, methods/protocols, data management systems to allow alignment and reporting of results; 2) inform a regional network of effectiveness monitoring coverage; and 3) encourage programmatic-level planning consistency across the region for Intensively Monitored Watersheds (IMW) and effectiveness monitoring projects and programs – facilitate moving away from "1-at-a-time" project-by-project decision making to coordinated efforts.

Over the course of three work sessions, the Workgroup collaborated to communicate about where we are in effectiveness monitoring, map out where we need to go, and how we are going to get there. These workshops began with a broad assessment of current and emerging efforts, discussion of information quality and gaps, followed by more detailed work on protocols and metrics, and coordination of data. Highlights of our achievements include products (inventory exercise and gap analysis, quality matrix work, draft Effectiveness Monitoring Coordination Strategy document) and also continued communication between various entities and dissemination of information was highly appreciated by participants. Results are being used by BPA, the WA Forum on Monitoring, and others in planning effectiveness monitoring activities.

PROPOSE: complete strategy for coordinating effectiveness monitoring; initiate data exchange template development for effectiveness monitoring data (this is an aspect of "Habitat Data DET" task below) next phase of inventory, gap assessment. We would like to expand to different types of projects and information and include additional partners (current version is focused on BPA needs) and we would like be able to inform guidance for location of effectiveness work - where do we focus effort to see a detectable effect, where can we align.

2011 PRODUCT: white paper, recommendations to Steering Committee

2011 RESOURCES: The Effectiveness Monitoring Leadership Team for this task is still committed and Bruce Crawford (NOAA) is leading development of the Coordination Strategy document. However, we need additional in-kind support from others to advance the Strategy to a recommendation and to take on additional topics as proposed. (Jen is lead staff person)

PNAMP Website Redevelopment

BACKGROUND: In 2010, PNAMP sought expertise from a Cooperative Ecosystem Studies Unit (CESU) to provide technical assistance in support of science delivery and technology transfer to increase the availability of biological and natural resources information at the regional and national level through the development and enhancement of our website (www.pnamp.org). PNAMP signed an agreement with Montana State University - Big Sky Institute to fund staff support to evaluate and recommend changes to the current website in order to improve ways of integrating, displaying, and accessing critical information about biological and environmental monitoring and other information for scientific and decision making processes by researchers and managers. In addition, the CESU Partner will explore options for connecting with other similar websites to provide a network of information. Ultimately, the working collaboration between PNAMP and the CESU Partner will help each organization, their partners, other stakeholders, and the public address a variety of resource issues at multiple scales.

PROPOSE: complete development work initiated late 2010

2011 PRODUCT: redesigned website (new architecture), reorganized content, cleaned up code/database

2011 RESOURCES: additional funds will be contributed to completion of the new website redevelopment ($15,000 to Montana State University - Big Sky Institute) (Jacque Schei is lead staff person)

PROPOSED "NEW STARTS"

Salmonid Population Naming Crosswalk and Mapping: This task has been proposed to PNAMP by Phil Roger, Columbia River Inter-tribal Fisheries Commission (CRITFC); Denise Kelsey (and other CRITFC staff) drafted the proposal below.

BACKGROUND: There is a need to map delineation of salmonid populations and develop crosswalks for nomenclature or 'names' for unique populations to support coordination of environmental resource information management. In the last six years, four major work groups have, independently, defined salmon populations and population boundaries in the Columbia River Basin. Different criteria and information were used for each of these processes. The majority of the populations are similar among these efforts, but there are also important differences and discrepancies between the sets of populations.

PROPOSE: PNAMP was asked to assist with this task by facilitating the plan proposed by CRITFC. Link to draft CRITFC proposal

PRODUCT: from the CRITFC proposal

1. A Geodatabase that contains the population boundaries (based on HUC6 watersheds) defined by fisheries managers from which they may indentify population characteristics of the populations they manage or co-manage. This geodatabase would be a crosswalk of population information from various sources and not a consensus (at first, future plans are unknown). All populations would be spatially referenced by the appropriate management entity, so that a given location in a river or stream could be potentially cross-identified to populations under various management entities, and the similarities and differences of each entity may be used to describe the same fish. Some of the differences often identified when describing the same fish in a watershed, for example, are naming convention, life history, influence of hatchery.
2. The Geodatabase could be used to quickly cross check population information using an interactive mapper, where the population data in the FishPops Geodatabase can be compared at a spatial location on the earth based on the layers of data on population boundaries from each management entity.

RESOURCES: Columbia River Inter-tribal Fisheries Commission staff (Denise Kelsey and Phil Roger) will lead; **participation of entities affected by these results (states, tribes, federal agencies) will be essential to achieve consensus.** PNAMP staff will facilitate process. Funding may be required to support technical implement; from the CRITFC proposal: likely a 4 -5 month full time project, including the time to create the initial version, design and implement an internet mapper to facilitate a regional review, and to update the geodatabase according to the reviews. Currently we have over 300 described populations of just Chinook and Steelhead. The actual time to completion would depend on the cooperation of the management entities staff to error check population data and spatial location.

Protocol/Methods Workshop Series: (LINK HERE)

BACKGROUND: One of PNAMP's objectives is to understand Partners' needs with respect to monitoring methodology and facilitate collaboration, coordination, discussion, and evaluation of implementation of monitoring methodology. In the course of these discussions, PNAMP has identified a few areas where methodology is very inconsistent or not agreed upon across projects and programs. With the completion of the Monitoring Methods/Community Forum tool, we hope to start to provide more consistency in documentation and therefore a better understanding between practitioners about what everyone is doing. We envision that there will be a need to provide training or workshops to roll out the new tool and show users how the tool might help in their work, how the tools works, and provide support for content entry. In addition, as we enlist more users, we will have more discussions on the community forum about implementation of monitoring methodology. We will use these discussions, as well as previous PNAMP discussions, as a basis to plan for technical workshops focused on a specific protocol or method.

PROPOSE: To offer workshops and/or training session to initiate users to the new Monitoring Methods tool in early 2010 (focus on protocol documentation and forum discussions); then to host technical workshops to facilitate discussion about a specific protocol or method. Use MM.org community forum, past PNAMP WG discussions, SC input, etc. to inform a list of proposed topics, use electronic voting tools to select/order of presentation.

Process would be to: 1) identify 1 or 2 key subject matter experts, work with them in advance of the workshop to describe the challenges/questions/needs with respect to a given protocol or method; 2) invite all PNAMP participants to participate (but require a RSVP to manage planning); 3) develop a workshop approach that would generally include presentation of current state of affairs with that topic, challenges, and discussion questions.

2011 PRODUCT: Two-three workshops/trainings to roll-out new Monitoring Methods tool; three 1-day, technical workshops through 2011; each worksession will result in a summary of: issues identified; any decisions/recommendations reached by consensus among subject matter experts; list of unresolved issues. Results could potentially be published via a short article in a monthly journal like *Fisheries* or simply via PNAMP website/MM.org website.

2011 RESOURCES: Jen/Jacque to facilitate set up & planning of workshops; seeking subject matter experts to assist with agenda development/preparation for specific events. (Jen/Jacque to facilitate workshops or hire facilitator)

Habitat Data Sharing Coordination (LINK HERE)

BACKGROUND: PNAMP has facilitated much discussion about habitat methods and protocols, resulting in advancement of coordination of these activities. Recent deliberations have included increasing interest in development of mechanisms to share and exchange habitat monitoring data. We propose to continue to facilitate PNAMP partners' collaboration and coordination towards consistent data management standards and tools, specifically with respect to habitat and effectiveness monitoring results and also in concert with development of similar standards for fish population data (see Coordinated Assessments task above) and also informed by Effectiveness Monitoring Coordination task (see above).

PROPOSE: PNAMP will facilitate a process to clarify needs for habitat data sharing and plan for subsequent development of a habitat data exchange template for PNAMP partners. Following the lessons learned in the Coordinated Assessments project, PNAMP will support a series of worksessions designed to identify data of interest (within broader scope of all habitat data), partner ability to share, constraints, and opportunities to develop data standards (and potentially a data exchange template) for regional use. We seek engagement from all interested PNAMP partners.

2011 PRODUCT: facilitated worksessions (at least 2) will yield a description of potential habitat data to consider for data exchange template focus (i.e. what data to share?), who is willing to engage, and what is needed to accomplish sharing (partner capacity and shared infrastructure needs). This activity will be informed by the ISTM task and coordinated with the ongoing Coordinated Assessments task. The first worksession is proposed to be held in early February (planning December 2010 – January 2011); second worksession to be held early May 2011 (planning February 2011 - May 2011).

2011 RESOURCES: facilitation will be contracted using BPA funding (Louis Sweeny, Ross & Assoc); we will need in-kind support from workgroup(s). (Kathryn Thomas is lead staff)

Remote Sensing Applications: (LINK HERE)

BACKGROUND: PNAMP has recognized a need to improve the availability of information about remote sensing applications can be used for aquatic resource monitoring. To this end, and as an outlet for information about some current uses of remote sensing in the Pacific Northwest, PNAMP has hosted a two sessions devoted to this topic. The most recent was a special session at the 2008 American Society for Photogrammetry and Remote Sensing (ASPRS) Annual Meeting. The special session, titled "Remote Sensing Applications for Aquatic Resource Monitoring," intended to share some current applications of remote sensing techniques in aquatic resource monitoring and to raise awareness in the remote sensing community of the need for improved remote sensing applications. This symposium, which included an expert panel discussion, resulted in a peer-reviewed PNAMP publication on these methods including a chapter on observations and recommendations from the expert panel. Since the publication was complete in 2009, the workgroup has been in static mode.

PROPOSE: to re-start the "remote sensing workgroup" and to develop recommendations for use of remote sensing tools for habitat monitoring. We can build on previous work, including a symposium at the 2008 national ASPRS conference & expert panel discussion about needs, which resulted in a PNAMP peer-reviewed publication (LINK HERE).
Goals are to facilitate connection between technical expert communities (remote sensing & habitat monitoring), develop information/tools to help monitoring practitioners understand tools available, costs/benefits; facilitate collaboration on joint data gathering; devise recommendations for research, tools needed to better serve monitoring community. Intention is to reach out to monitoring practitioners interested in a variety of aquatic influenced habitat types such as riparian, estuarine, and coastal.

2011 PRODUCT: symposium at regional conference, recommendations via PNAMP white paper(s)

2011 RESOURCES: Seeking expert workgroup leader (able to fund some limited hours). Need in-kind participation in planning and implementation of symposium session, any potential publications. (Kathryn Thomas is lead staff).

American Fisheries Society 2011 Conference Symposium on Data Management topics

Proposed for 2011: Symposium title**:** Managing your fishy data: Data management for wide scale assessment; organizer(s): Kathryn A. Thomas and Jennifer M. Bayer. Description: The first Excel spreadsheets appeared 23 years ago and are now as familiar to fisheries biologists as their waders. Meanwhile the technologies of data and information management have rapidly developed resulting in increasingly sophisticated tools and approaches for managing data. These advances affect every type of participant involved in the management of aquatic resources - field technicians, senior scientists, funding agencies, and policy makers – through their impact on the quality, accessibility, and exchangeability of field collected and sensor data. Yet implementation of these new technologies and approaches has

been uneven throughout the community of fisheries management. This symposium provides an opportunity for biologists and managers to learn about efforts in the Pacific Northwest to use information management tools and best practice approaches to improve the management and sharing of data to support regional-level assessment. The symposium presenters address how regional repositories, on-line tools, sharing agreements, and regional coordination mechanisms are improving data quality and data sharing capacity regionally. While the presentations provide case studies for the Northwest, the lessons learned and tools implemented are applicable to aquatic systems elsewhere. The up-to-date information provided will help bridge the gap between the Excel spreadsheets of each individual biologist and the need for efficient sharing of high quality data for regional management and policy decisions.

This will be paired with talks and possibly a hands-on session to demonstrate & provide training on the Monitoring Methods web tool.

2011 Product: symposium at national conference

2011 Resources: PNAMP staff time to organize & facilitate planning for the session; partners staff to contribute

As of February 15, 2011, two additional tasks are still under development and review by the Steering Committee. We will continue to seek feedback and will request review by the SC before these tasks are formally added to the 2011 workplan. See below for tentative task descriptions.

Provide support for Salmon Monitoring Advisor website (LINK HERE); planning for integration of web resources

PNAMP, working in partnership with the State of the Salmon Project, has been asked to consider assuming ownership and maintenance of the Salmon Monitoring Advisor website (link here). The Salmon Monitoring Advisor site was developed by a working group of scientists through a series of workshops from March 2008 - March 2010. These meetings were funded by a grant from the Gordon and Betty Moore Foundation, a non-governmental conservation organization based in Palo Alto, California. The grant was administered through the United States National Center for Ecological Analysis and Synthesis (NCEAS) in Santa Barbara, California. NCEAS also provided logistical support for the workshops. The working group was composed of 14 scientists with extensive experience in a variety of governmental and non-governmental organizations, many of which are involved in PNAMP.

Proposed for 2011: PNAMP to partner with SoS to support this resource. PNAMP would host the site and promote use of the tool in the PNAMP community; SoS would share responsibility for marketing/outreach and continued input and development, reaching out to their community of salmon conservationists around the Pacific Rim. Initially, the site would be migrated 'as is' to the entity that hosts other web resources for PNAMP. However, we propose to the SC that PNAMP could make this resource even more useful to monitoring practitioners by working to produce similar tools for monitoring watersheds, habitat, other interests in addition to the current emphasis, which is salmon population monitoring.

We believe PNAMP is uniquely poised to bring together a number of web-based resources to create a network of information and tools to support many facets of monitoring. These resources include our monitoring methods library and methods community forum, the master sample tracking tool, and data management tools. Part of this task is to thoughtfully consider how to integrate our existing resources and plan for the future support of these important collaboration and coordination tools.

2011 Product: PNAMP to publicly host existing SMA site; develop plan for integration of web resources; complete user analysis of SMA, MM.org, community forum

2011 Resources: Sitka Technology will migrate the existing SMA site and assist with integration plan; SoS will support user analyses

Effectiveness Monitoring Coordination - expand to include estuary

Proposed for 2011: Estuary Effectiveness Monitoring Coordination Task: proposed by BPA as an extension of ongoing PNAMP effectiveness monitoring coordination efforts. This was not included in the November draft workplan, so please read below from Russell Scranton:

To support ongoing action effectiveness work BPA has continued to maintain an inventory of effectiveness monitoring at the project and watershed scale for habitat actions. BPA has been updating its evaluation of effectiveness projects relative to the status and BACI score sheets to help determine the level of effort for various action types.

BPA will be producing a gap assessment on action effectiveness work by treatment type to determine the need for additional funding for habitat treatment studies. Of particular interest, BPA is hoping to update the inventory for estuarine treatment assessment related to wetland creation and rehabilitation and dike removal, as well as tributary flow studies. BPA hopes to continue to use the PNAMP effectiveness work group as a resource to create and review products. In particular is there a PNAMP recommendation or agreement on the number of site level studies needed.

Lastly BPA is also working on a hatchery monitoring inventory for the Columbia to help the CHREET project identify hatchery action effectiveness monitoring needs. If you have new hatchery studies planned please contact Chuck Peven. In particular if there are RRS or density dependence studies outside the Columbia that might inform Columbia hatchery management for various salmonid species.

2011 Product: needs further development

2011 Resources: will need Effectiveness task LT to resume and agree to support this work